

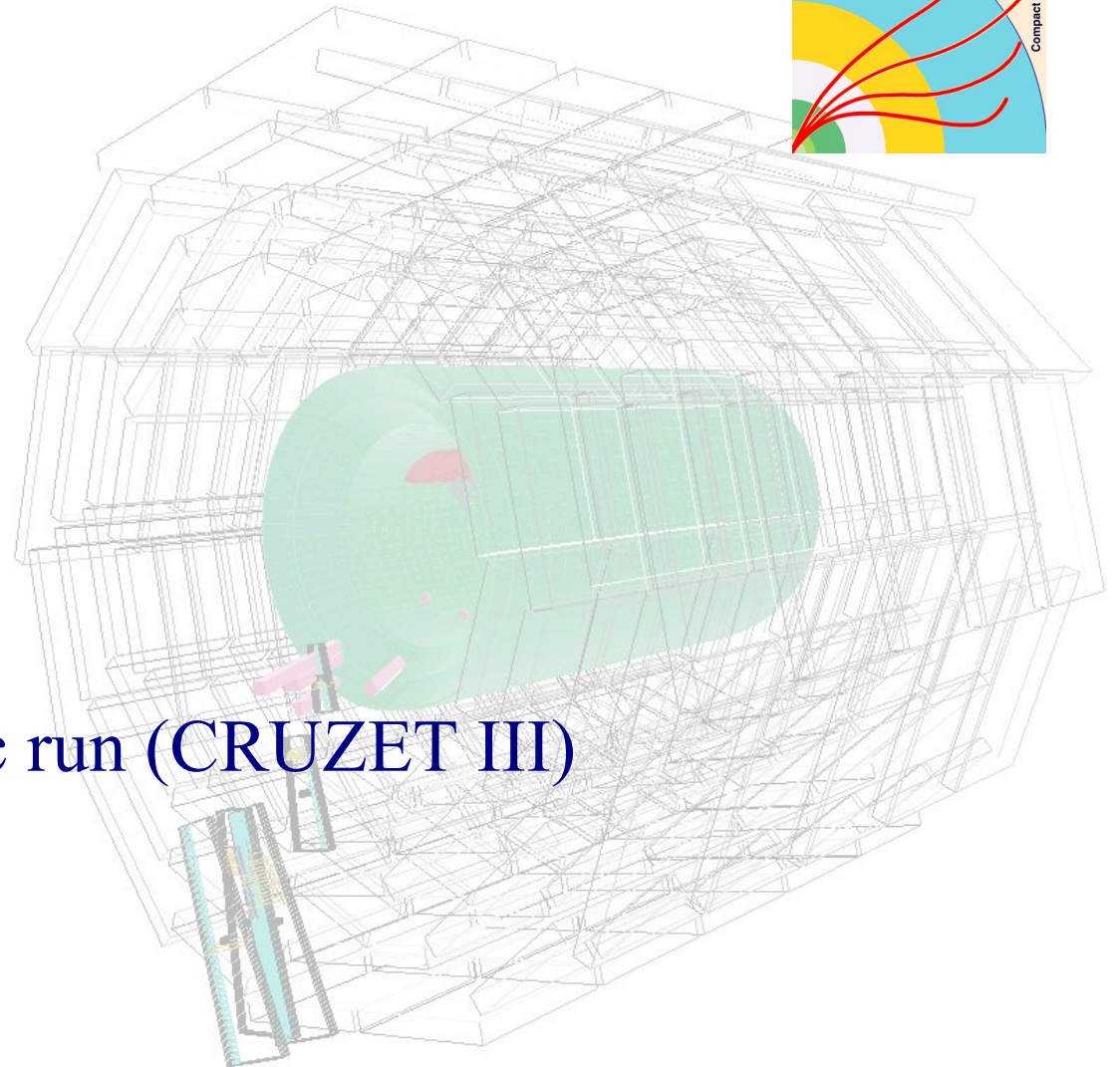
AEM meeting

Status of LHC / CMS

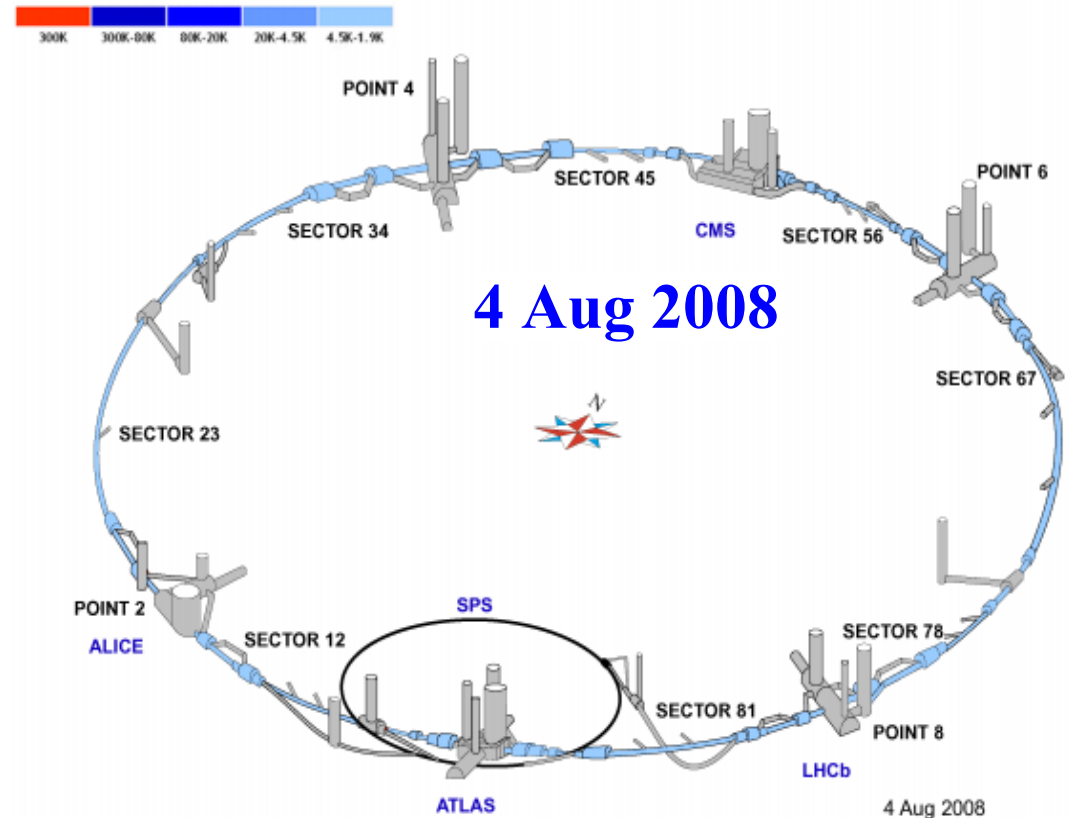
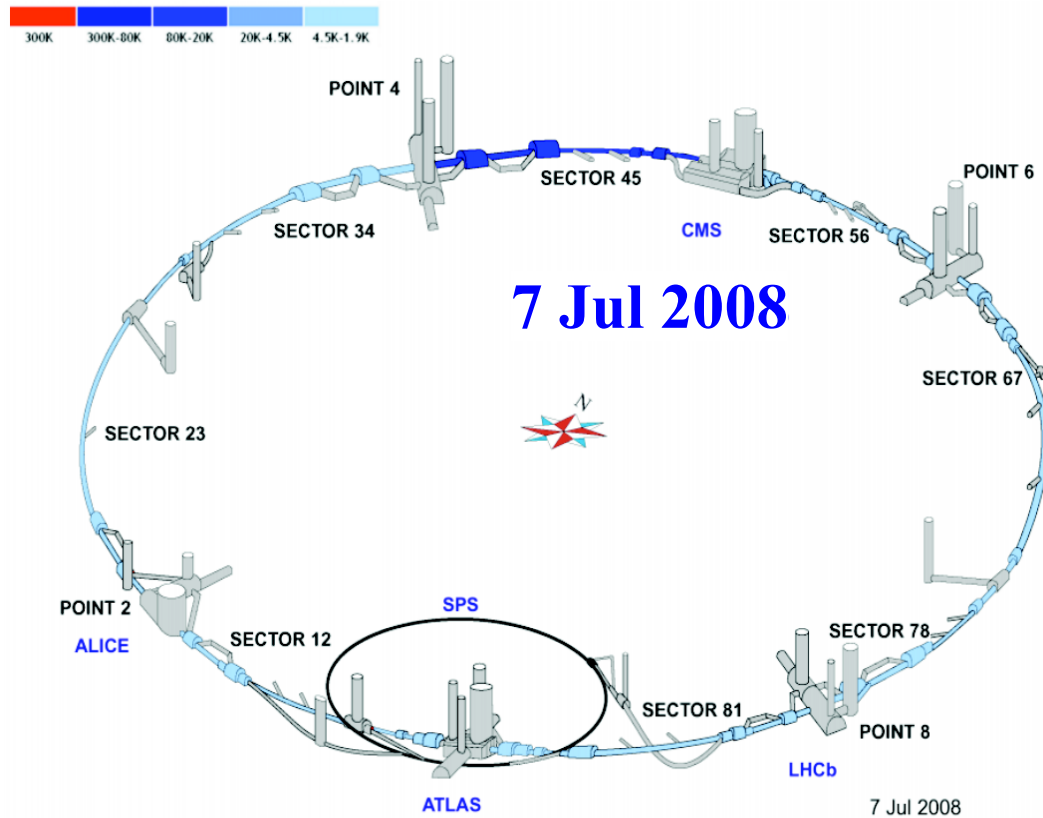
Ingo Bloch, FNAL



- LHC status
- CMS status
- CMS recent global cosmic run (CRUZET III)

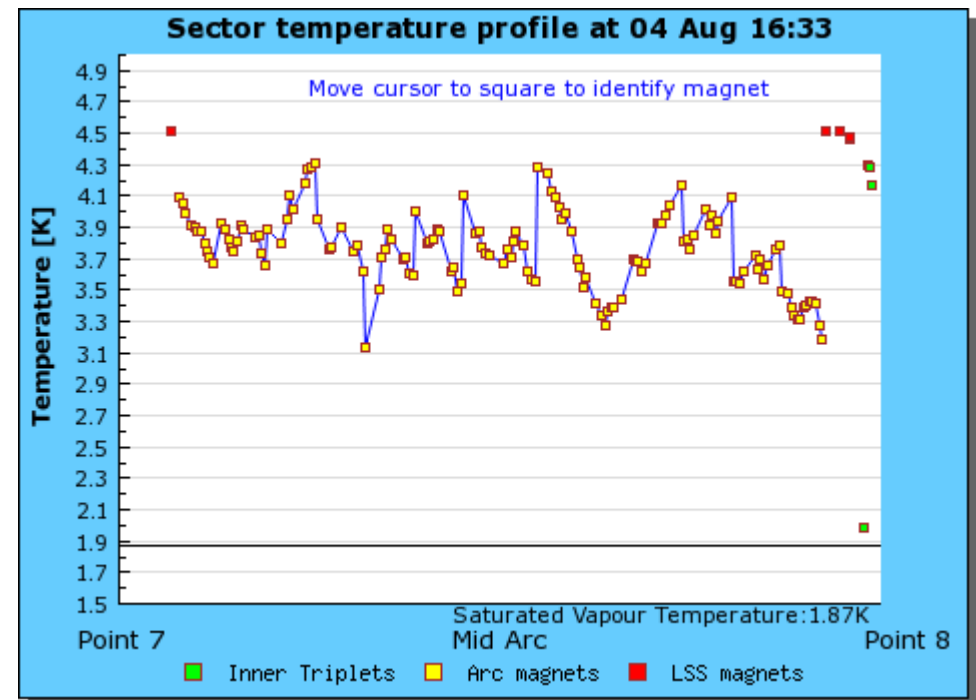
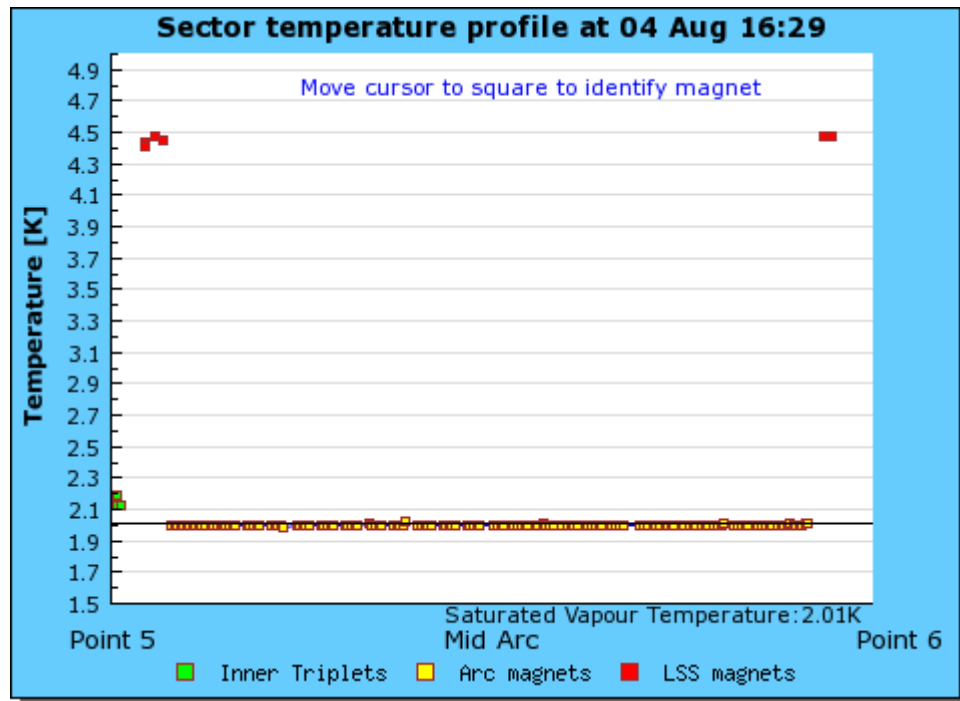


LHC cooling status



LHC super-cold in **all** sectors now.

LHC cooling status



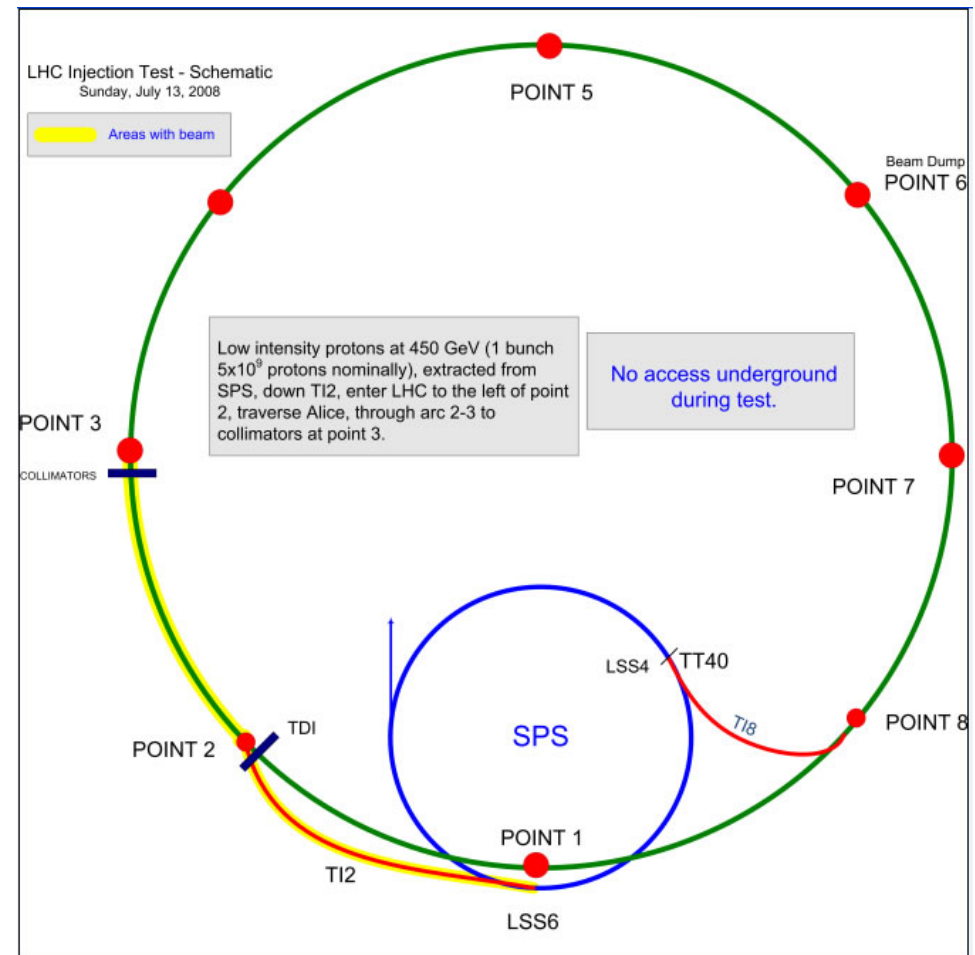
LHC is <4K in all sectors now - sector 7-8 is currently at 3.9K

LHC plans

- currently access system control check out is ongoing
- **sector injection test in sector 12&23, scheduled for Aug. 9.&10.**

inject from TI2 through IR2L, IR2R, arc 23 with the beam being stopped on the momentum collimators in point 3.

Scope: validate injection and operation of sector 23 with pilot beam, perform optics and aperture measurements...

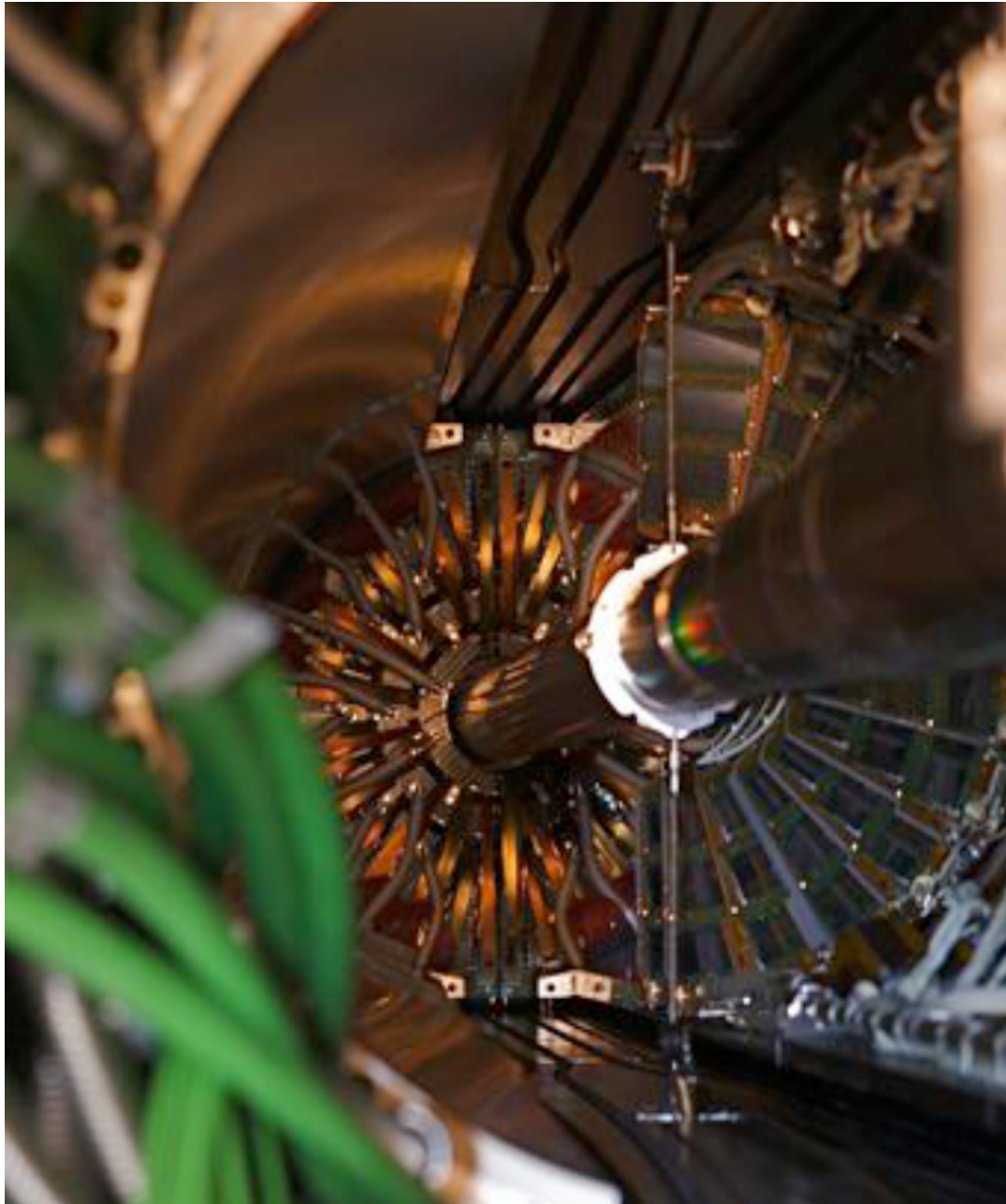


- **first circulating beam planned for Sep. 2nd or 3rd**

<http://lhc-injection-test.web.cern.ch/lhc-injection-test/>

- **all CMS components** were **installed** by last Friday! (except for preshower)
most recently installed were:
 - endcap ECal
 - barrel and endcap pixels → pictures next page
- Now connecting and commissioning the latest additions
- Followed by removal of all scaffolding, support concrete blocks...
- Planning for low current magnet test as soon as all magnetic material removed from pit
- Performed monthly global cosmic run weeks CRUZET I, II & III
 - Next monthly global cosmic run (CRUZET 4) from 18th to 25th August
- New weekly global cosmic runs on Wed. / Thu. (24h operation)
- CMS should be closed by end of August → continuous operation (with magnetic field)

CMS Forward Pixels going in



<http://indico.cern.ch/getFile.py/access?subContId=0&contribId=1&resId=1&materialId=slides&confId=38700>

CRUZET III (7th Jul - 14th Jul)

Data taking with most advanced state of CMS so far.

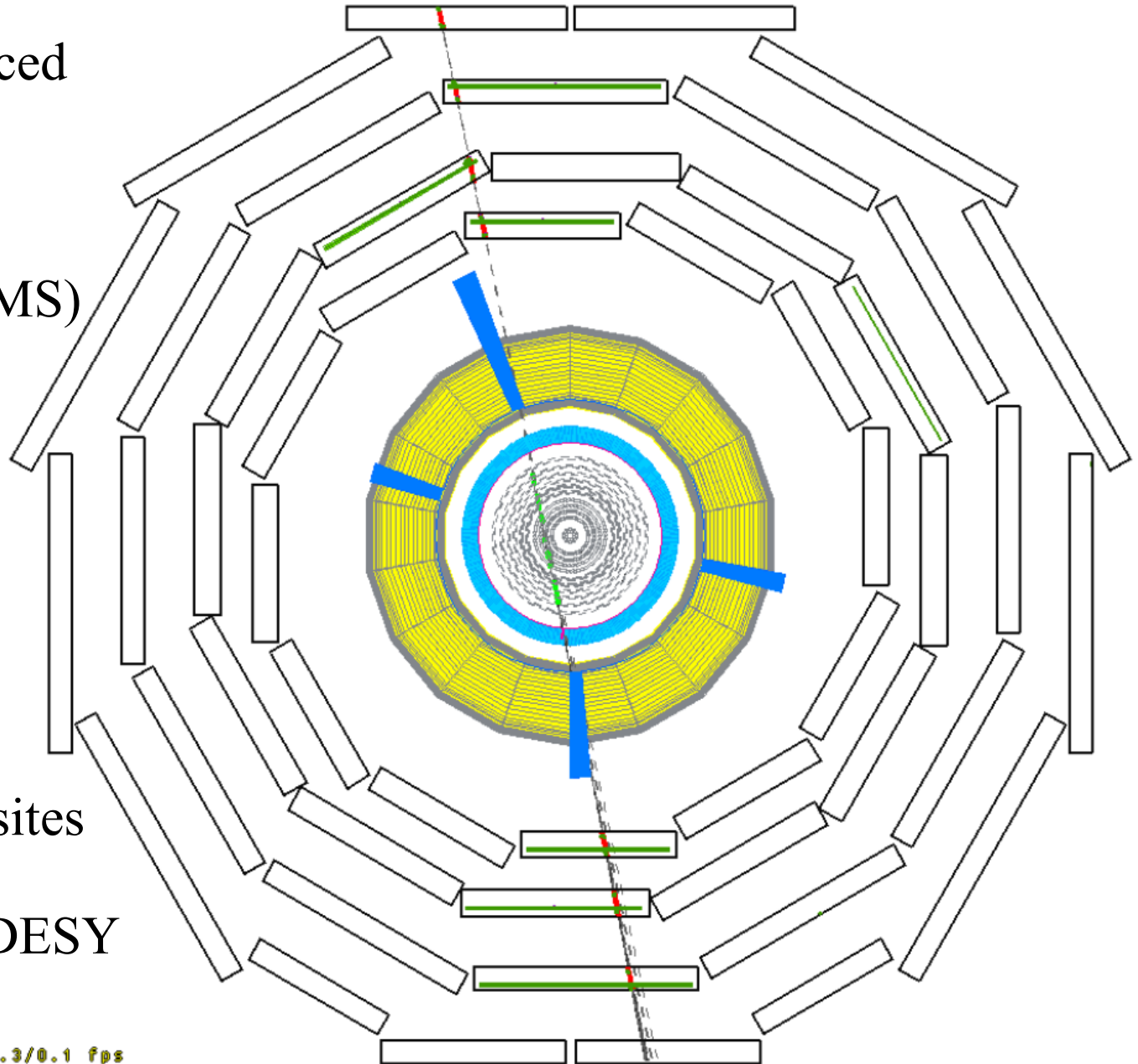
Cosmics data from:

- Tracker (first time in CMS)
- ECal
- HCal
- Muon Chambers (DT, CSC, RPC)
- HLT
- DQM

Prompt reconstruction at T0 and fast transfer to T1 sites

Shifts at CERN, FNAL and DESY

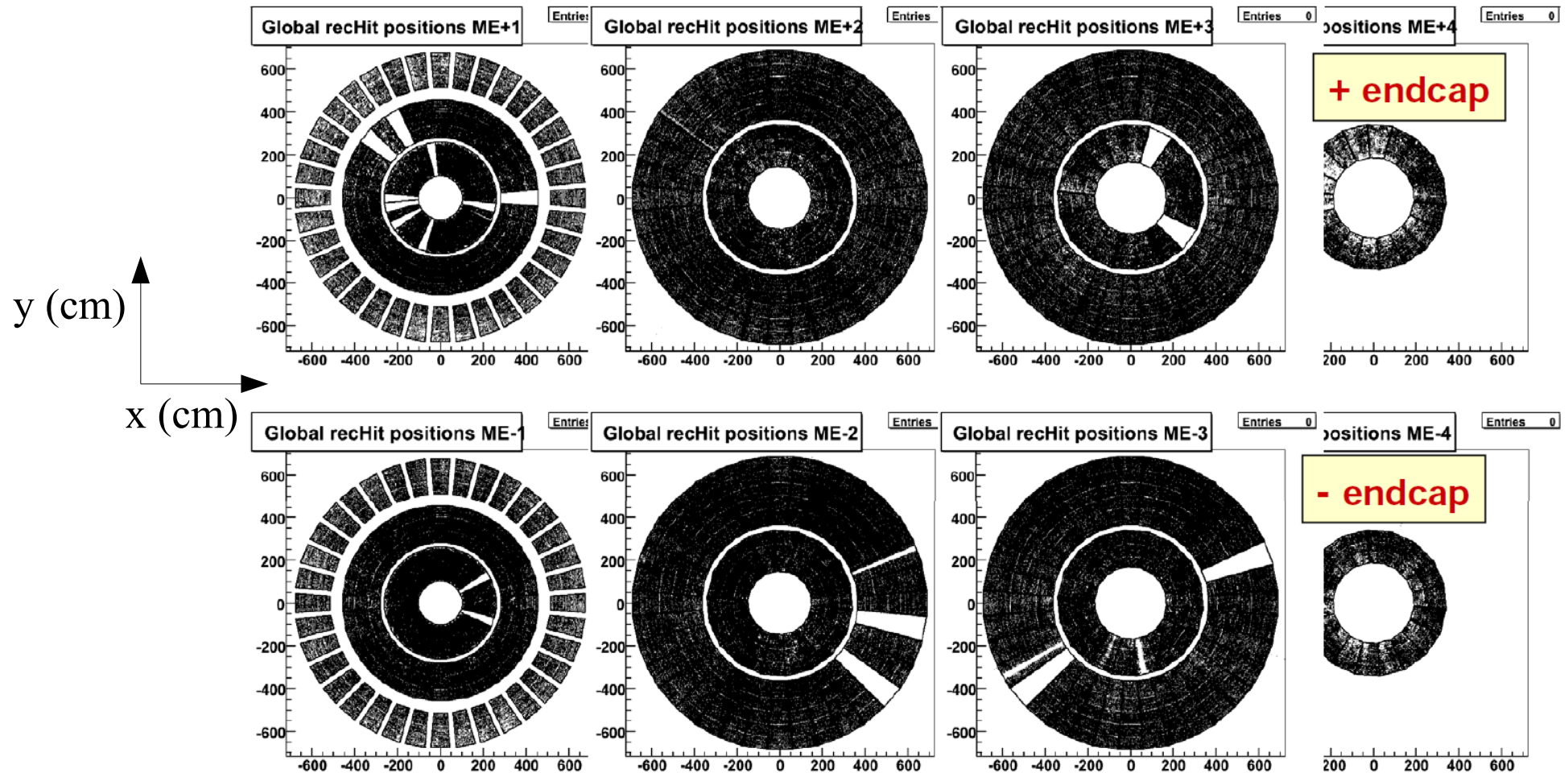
6.3/0.1 fps



<http://indico.cern.ch/getFile.py/access?contribId=3&resId=0&materialId=slides&confId=38542>

Endcap muon chambers in CRUZET III

Endcap muon chamber occupancy plots of hits from cosmic muons:

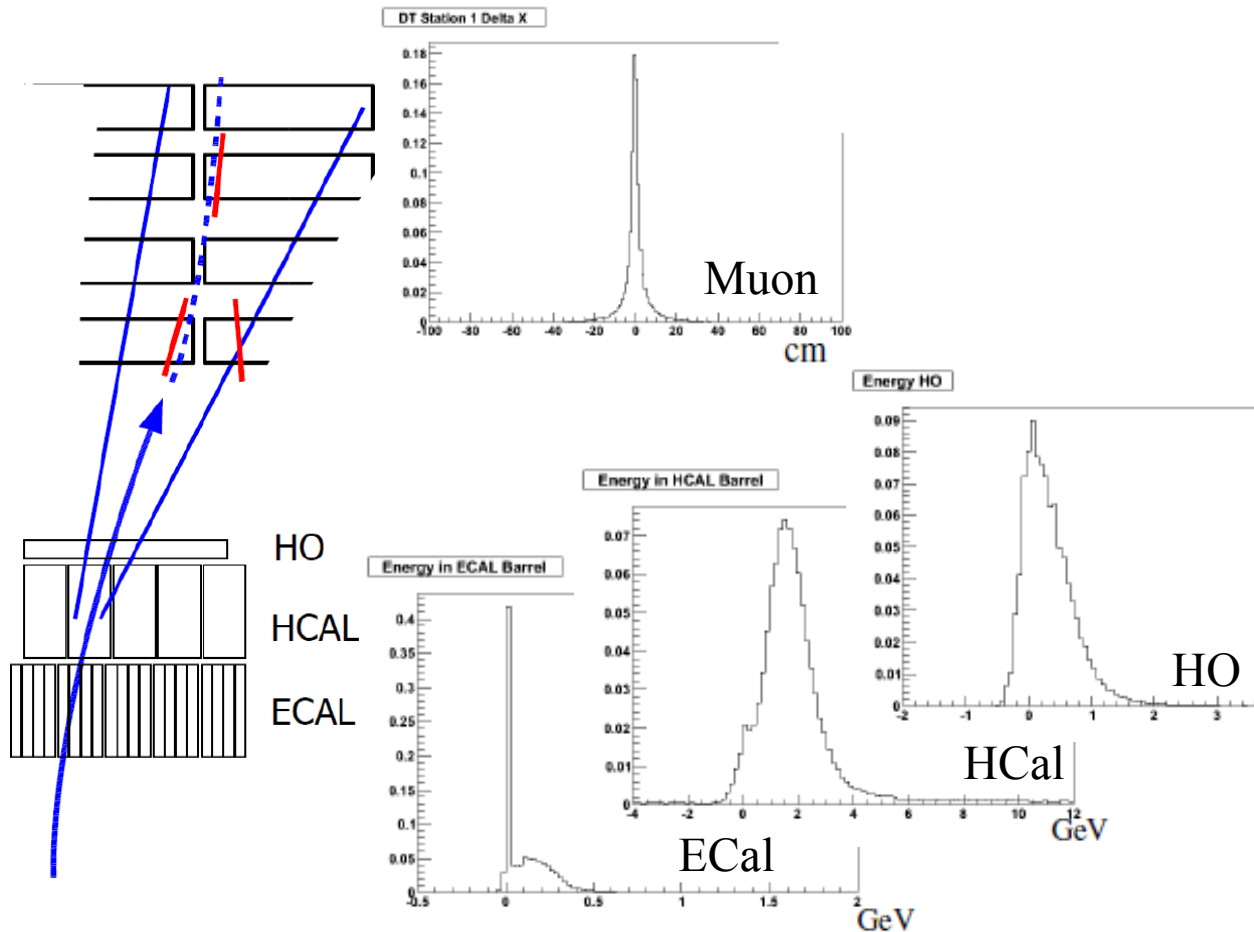


Endcap muon chambers performing very well.

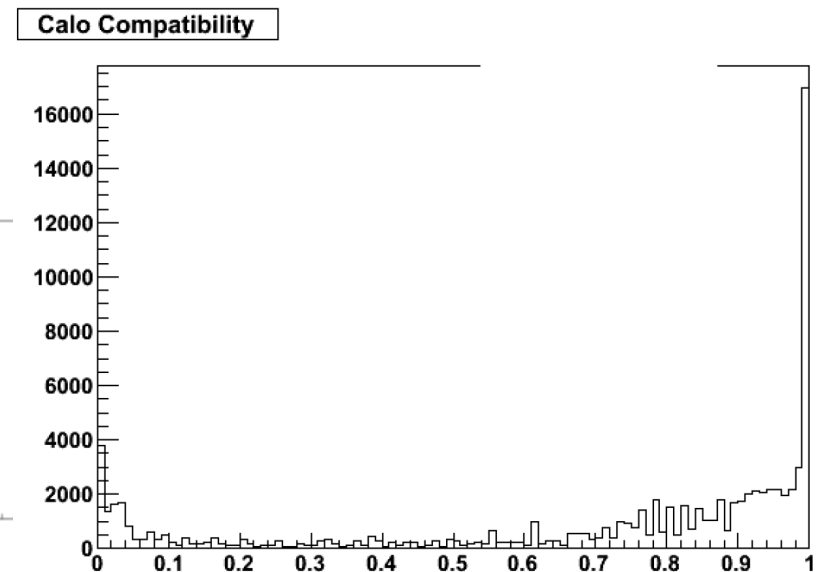
Few known missing chambers will be fixed as soon as access becomes possible.

MuonID in CRUZET III

ID algorithms associate muon stubs and calorimeter energy with tracks:



Derived compatibility with muon hypothesis:



Very preliminary tests show that ID algorithms work quite well on the very first CMS data (not yet very well calibrated, aligned, ...).

Conclusion

- Extremely exciting time for LHC and CMS - everything is coming together
- CMS installation now complete. Transition to continuous operation in full swing
- Global Cosmic run (CRUZET III):
 - first data of nearly complete CMS looks very good
 - no major problems observed
 - learning to operate CMS continuously
- Looking forward to the first data with complete detector and field very soon